In The Claims:

Claim 1. (currently amended) An operating method, for detecting and solving underflow and overflow by using oversampling, the method is suitable for a transmitter and a receiver to transmit and receive data by using different clock frequencies, the receiver receives a plurality of received packages, each of the received packages includes a plurality of data, each of the data is sampled by a plurality of sampling phases, the sampling phase that is a first sampling for each of the data is referred to as a leading edge sampling phase, the method comprises the steps of:

for each of the received packages, the leading edge sampling phase with most occurrence times in a first one of at least one synchronous period being used as an initial leading edge phase;

determining an underflow circulation center point and an overflow circulation center point;

processing an underflow operation and an overflow operation according to the underflow circulation center point and the overflow circulation center point;

throwing away an extra bit when processing the underflow operation; and

inserting a lost bit when processing the overflow operation,

wherein, whether to process the underflow operation is determined by relative positions between the underflow circulation center point and the leading edge sampling phases,

wherein, whether to process the overflow operation is determined by relative positions between the overflow circulation center point and the leading edge sampling phases.

Claim 2. (original) The operating method of claim 1, wherein when each of the data is sampled, the data is sampled by using one of the sampling phases after the leading edge sampling phase that is corresponding to each of the data.

Claim 3. (currently amended) ~~The operating method of claim 1~~ An operating method, for detecting and solving underflow and overflow by using oversampling, the method is suitable for a transmitter and a receiver to transmit and receive data by using different clock frequencies, the receiver receives a plurality of received packages, each of the received packages includes a plurality of data, each of the data is sampled by a plurality of sampling phases, the sampling phase that is a first sampling for each of the data is referred to as a leading edge sampling phase, the method comprises the steps of:

for each of the received packages, the leading edge sampling phase with most occurrence times in a first one of at least one synchronous period being used as an initial leading edge phase;

determining an underflow circulation center point and an overflow circulation center point;

processing an underflow operation and an overflow operation according to the underflow circulation center point and the overflow circulation center point;

throwing away an extra bit when processing the underflow operation; and

inserting a lost bit when processing the overflow operation,

wherein when the sampling phases have n (n is a positive odd number) sampling phases, the phase shift of the leading edge sampling phase that is located in between the (n+1)/2th

sampling phase and the ([(n+1)/2]+1th sampling phase is used as the underflow circulation center point and the overflow circulation center point.

Claim 4. (currently amended) ~~The operating method of claim 1~~ An operating method, for detecting and solving underflow and overflow by using oversampling, the method is suitable for a transmitter and a receiver to transmit and receive data by using different clock frequencies, the receiver receives a plurality of received packages, each of the received packages includes a plurality of data, each of the data is sampled by a plurality of sampling phases, the sampling phase that is a first sampling for each of the data is referred to as a leading edge sampling phase, the method comprises the steps of:

for each of the received packages, the leading edge sampling phase with most occurrence times in a first one of at least one synchronous period being used as an initial leading edge phase;

determining an underflow circulation center point and an overflow circulation center point;

processing an underflow operation and an overflow operation according to the underflow circulation center point and the overflow circulation center point;

throwing away an extra bit when processing the underflow operation; and

inserting a lost bit when processing the overflow operation,

wherein when the sampling phases have m (m is a positive even number) sampling phases, the leading edge sampling phase that is located in the [(m/2)+1]th sampling phase is used as the underflow circulation center point and the overflow circulation center point.

Claim 5. (previously presented) An operating method, for detecting and solving underflow and overflow by using oversampling, the method is suitable for a transmitter and a receiver to transmit and receive data by using different clock frequencies, the receiver receives a plurality of received packages, each of the received packages includes a plurality of data, each of the data is sampled by a plurality of sampling phases, the sampling phase that is a first sampling for each of the data is referred to as a leading edge sampling phase, the method comprises the steps of:

for each of the received packages, the leading edge sampling phase with most occurrence times in a first one of at least one synchronous period being used as an initial leading edge phase;

determining an underflow circulation center point and an overflow circulation center point;

processing an underflow operation and an overflow operation;

throwing away an extra bit when processing the underflow operation; and

inserting a lost bit when processing the overflow operation;

wherein when the sampling phases have n (n is a positive odd number) sampling phases, the phase shift of the leading edge sampling phase that is located in between the (n+1)/2th sampling phase and the ([(n+1)/2]+1th sampling phase is used as the underflow circulation center point and the overflow circulation center point, when the sampling phases have m (m is a positive even number) sampling phases, the leading edge sampling phase that is located in the [(m/2)+1]th sampling phase is used as the underflow circulation center point and the overflow circulation center point.

Claim 6. (original) The operating method of claim 5, wherein when each of the data is sampled, the data is sampled by using one of the sampling phases after the leading edge sampling phase that is corresponding to each of the data.

Claim 7. (currently amended) An operating method, for detecting and solving underflow by using oversampling, the method is suitable for a transmitter and a receiver to transmit and receive data by using different clock frequencies, the receiver receives a plurality of received packages, each of the received packages includes a plurality of data, each of the data is sampled by a plurality of sampling phases, the sampling phase that is a first sampling for each of the data is referred to as a leading edge sampling phase, the method comprises the steps of:

for each of the received packages, the leading edge sampling phase with most occurrence times is used as an initial leading edge phase;

determining an underflow circulation center point;

processing an underflow operation according to the underflow circulation center point; and

throwing away an extra bit when processing the underflow operation,

wherein, whether to process the underflow operation is determined by relative positions between the underflow circulation center point and the leading edge sampling phases.

Claim 8. (original) The operating method of claim 7, wherein when each of the data is sampled, the data is sampled by using one of the sampling phases after the leading edge sampling phase that is corresponding to each of the data.

Claim 9. (currently amended) ~~The operating method of claim 7~~ An operating method, for detecting and solving underflow by using oversampling, the method is suitable for a transmitter and a receiver to transmit and receive data by using different clock frequencies, the receiver receives a plurality of received packages, each of the received packages includes a plurality of data, each of the data is sampled by a plurality of sampling phases, the sampling phase that is a first sampling for each of the data is referred to as a leading edge sampling phase, the method comprises the steps of:

for each of the received packages, the leading edge sampling phase with most occurrence times is used as an initial leading edge phase;

determining an underflow circulation center point;

processing an underflow operation according to the underflow circulation center point; and

throwing away an extra bit when processing the underflow operation,

wherein when the sampling phases have n (n is a positive odd number) sampling phases, the phase shift of the leading edge sampling phase that is located in between the (n+1)/2th sampling phase and the ([(n+1)/2]+1th sampling phase is used as the underflow circulation center point.

Claim 10. (currently amended) ~~The operating method of claim 7~~ An operating method, for detecting and solving underflow by using oversampling, the method is suitable for a transmitter and a receiver to transmit and receive data by using different clock frequencies, the receiver receives a plurality of received packages, each of the received packages includes a plurality of data, each of the data is sampled by a plurality of sampling phases, the sampling phase that is a first sampling for each of the data is referred to as a leading edge sampling phase, the method comprises the steps of:

for each of the received packages, the leading edge sampling phase with most occurrence times is used as an initial leading edge phase;

determining an underflow circulation center point;

processing an underflow operation according to the underflow circulation center point; and

throwing away an extra bit when processing the underflow operation,

wherein when these sampling phases have m (m is a positive even number) sampling phases, the leading edge sampling phase that is located in the [(m/2)+1]th sampling phase is used as the underflow circulation center point.

Claim 11. (previously presented) An operating method, for detecting and solving underflow by using oversampling, the method is suitable for a transmitter and a receiver to transmit and receive data by using different clock frequencies, the receiver receives a plurality of received packages, each of the received packages includes a plurality of data, each of the data is

sampled by a plurality of sampling phases, the sampling phase that is a first sampling for each of the data is referred to as a leading edge sampling phase, the method comprises the steps of:

for each of the received packages, the leading edge sampling phase with most occurrence times is used as an initial leading edge phase;

determining an underflow circulation center point;

processing an underflow operation according to the underflow circulation center point; and

throwing away an extra bit when processing the underflow operation;

wherein when the sampling phases have n (n is a positive odd number) sampling phases, the phase shift of the leading edge sampling phase that is located in between the (n+1)/2th sampling phase and the ([(n+1)/2]+1th sampling phase is used as the underflow circulation center point, when the sampling phases have m (m is a positive even number) sampling phases, the leading edge sampling phase that is located in the [(m/2)+1]th sampling phase is used as the underflow circulation center point.

Claim 12. (original) The operating method of claim 11, wherein when each of the data is sampled, the data is sampled by using one of the sampling phases after the leading edge sampling phase that is corresponding to each of the data.

Claim 13. (currently amended) An operating method, for detecting and solving underflow by using oversampling, the method is suitable for a transmitter and a receiver to transmit and

receive data by using different clock frequencies, the receiver receives a plurality of received packages, each of the received packages includes a plurality of data, each of the data is sampled by a plurality of sampling phases, the sampling phase that is a first sampling for each of the data is referred to as a leading edge sampling phase, the method comprises the steps of:

for each of the received packages, the leading edge sampling phase with most occurrence times is used as an initial leading edge phase;

determining an overflow circulation center point;

processing an overflow operation according to the overflow circulation center point; and

inserting a lost bit when processing the overflow operation,

wherein, whether to process the overflow operation is determined by relative positions between the overflow circulation center point and the leading edge sampling phases.

Claim 14. (original) The operating method of claim 13, wherein when each of the data is sampled, the data is sampled by using one of the sampling phases after the leading edge sampling phase that is corresponding to each of the data.

Claim 15. (currently amended) ~~The operating method of claim 13~~ An operating method, for detecting and solving underflow by using oversampling, the method is suitable for a transmitter and a receiver to transmit and receive data by using different clock frequencies, the receiver receives a plurality of received packages, each of the received packages includes a plurality of data, each of the data is sampled by a plurality of sampling phases, the sampling

phase that is a first sampling for each of the data is referred to as a leading edge sampling phase, the method comprises the steps of:

for each of the received packages, the leading edge sampling phase with most occurrence times is used as an initial leading edge phase;

determining an overflow circulation center point;

processing an overflow operation according to the overflow circulation center point; and

inserting a lost bit when processing the overflow operation,

wherein when the sampling phases have n (n is a positive odd number) sampling phases, the phase shift of the leading edge sampling phase that is located in between the (n+1)/2th sampling phase and the ([(n+1)/2]+1th sampling phase is used as the overflow circulation center point.

Claim 16. (currently amended) ~~The operating method of claim 13~~ An operating method, for detecting and solving underflow by using oversampling, the method is suitable for a transmitter and a receiver to transmit and receive data by using different clock frequencies, the receiver receives a plurality of received packages, each of the received packages includes a plurality of data, each of the data is sampled by a plurality of sampling phases, the sampling phase that is a first sampling for each of the data is referred to as a leading edge sampling phase, the method comprises the steps of:

for each of the received packages, the leading edge sampling phase with most occurrence times is used as an initial leading edge phase;

determining an overflow circulation center point;

processing an overflow operation according to the overflow circulation center point; and

inserting a lost bit when processing the overflow operation,

wherein when the sampling phases have m (m is a positive even number) sampling phases, the leading edge sampling phase that is located in the [(m/2)+1]th sampling phase is used as the overflow circulation center point.

Claim 17. (previously presented) An operating method, for detecting and solving underflow by using oversampling, the method is suitable for a transmitter and a receiver to transmit and receive data by using different clock frequencies, the receiver receives a plurality of received packages, each of the received packages includes a plurality of data, each of the data is sampled by a plurality of sampling phases, the sampling phase that is a first sampling for each of the data is referred to as a leading edge sampling phase, the method comprises the steps of:

for each of the received packages, the leading edge sampling phase with most occurrence times is used as an initial leading edge phase;

determining an overflow circulation center point;

processing an overflow operation according to the overflow circulation center point; and

inserting a lost bit when processing the overflow operation;

wherein when the sampling phases have n (n is a positive odd number) sampling phases, the phase shift of the leading edge sampling phase that is located in between the (n+1)/2th sampling phase and the ([(n+1)/2]+1th sampling phase is used as the overflow circulation center

point, when these sampling phases have m (m is a positive even number) sampling phases, the leading edge sampling phase that is located in the [(m/2)+1]th sampling phase is used as the overflow circulation center point.

Claim 18. (original) The operating method of claim 17, wherein when each of the data is sampled, the data is sampled by using one of the sampling phases after the leading edge sampling phase that is corresponding to each of the data.